01-19-00

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jc405 U.S. PTO

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Address to:
Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Attorney's Docket No. SONY-T0084
[S00P0084US00]
First Named Inventor YOSHIO KITAMURA

jc675 U.S. PTO
09/484668
01/18/00

UTILITY PATENT APPLICATION TRANSMITTAL
(under 37 CFR 1.53(b))

SIR:

Transmitted herewith for filing is the patent application entitled:
PRINT OUTPUT CONTROL APPARATUS, PRINT OUTPUT CONTROL METHOD, AND COMPUTER-READABLE RECORDING MEDIUM RECORDING PROGRAM HAVING PRINT OUTPUT CONTROL CAPABILITY

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date January 18, 2000, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EL254109620US addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Lana Brenner
(Name of person mailing paper)

(Signature)

Enclosed are:

1. X Transmittal Form (two copies required)

2. The papers required for filing date under CFR § 1.53(b):
   i. 22 Pages of specification (including claims and abstract);
   ii. 7 Sheets of drawings.
   x formal __ informal

3. Declaration or oath

   a. x Unsigned

ACCOMPANYING APPLICATION PARTS

4. __ An assignment of the invention to Sony Corporation is attached (including Form PTO-1595).

   i. __ 37 CFR 3.73(b) Statement (when there is an assignee)

5. x Power of Attorney (unsigned)

6. __ An Information Disclosure Statement (IDS) is enclosed, including a PTO-1449 and copies of __ references.

7. __ Preliminary Amendment.

8. X Return Receipt Postcard (MPEP 503 -- should be specifically itemized)

9. FOREIGN PRIORITY
   [x] Priority of application no. P11-020333 filed on January 28, 1999 in Japan is claimed under 35 USC 119.

   The certified copy of the priority application:
   x is filed herewith; or
   _ has been filed in prior application no. _ filed on _, or
   _ will be provided.

   __ English Translation Document (if applicable)

10. **FEE CALCULATION**

a. __ Amendment changing number of claims or deleting multiple dependencies is enclosed.

CLAIMS AS FILED

	Number Filed	Number Extra	Rate	Basic Fee ($690)
Total Claims	8 - 20	* 0	x $18.00	0
Independent Claims	3 - 3	* 0	x $78.00	0
__ Multiple dependent claim(s), if any			$260.00	0

*If less than zero, enter "0".

Filing Fee Calculation $690.00

50% Filing Fee Reduction (if applicable) . . . . . $

11. Small Entity Status
   a. __ A small entity statement is enclosed.
   b. __ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
   c. __ is no longer claimed.

12. Other Fees
   __ Recording Assignment [$40.00] $0
   __ Other fees
   Specify _____ $0

Total Fees Enclosed $690.00

13. Payment of Fees
   x Check(s) in the amount of $ 690.00 enclosed.
   __ Charge Account No. 12-1420 in the amount of $__.
   A duplicate of this transmittal is attached.

14. All correspondence regarding this application should be forwarded to the undersigned attorney:

Charles P. Sammut
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San Francisco, CA 94111
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Facsimile: 415/433-8716

15. Authorization to Charge Additional Fees

X The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Account No. 12-1420. **A duplicate of this transmittal is attached.**

LIMBACH & LIMBACH L.L.P.

January 18, 2000
(Date)

By: _____
Charles P. Sammut
Registration No. 28,901
Attorney(s) or Agent(s) of Record

Attorney Docket No. SONY-T0084
[S00P0084US00]

BY EXPRESS MAIL NO. EL254109620US
Attorney Docket No. SONY-T0084

PRINT OUTPUT CONTROL APPARATUS, PRINT OUTPUT CONTROL METHOD, AND COMPUTER-READABLE RECORDING MEDIUM RECORDING PROGRAM HAVING PRINT OUTPUT CONTROL CAPABILITY

BACKGROUND OF THE INVENTION

The present invention relates generally to a print output control apparatus, a print output control method, and a recording medium recording this method that enhance user interface.

Generally, peripheral devices connected to a computer are controlled by device drivers. Especially, printers are controlled by printer drivers. For example, in printing a file (or document) of image data or text data created by an application, the printer driver for that printer is called from the application program.

To be specific, when the user selects "Print" from the menu of an application program, a dialog box associated with the printing appears on the display screen. The user sets print-associated parameters through the dialog box and then enters a print command, upon which the specified image data for example are outputted on the printer. The printer driver displays the dialog box through which the user sets paper size, print pages, and the number of copies to be printed for example. Thus,

by use of the dialog box, the user makes setting for desired print outputs.

Some application programs have a print image drawing capability. This capability allows the user to preview a print image of before actually performing printing on the printer. If the preview image is different from what the user desires, for example, if the image is found outside the range of a specified paper, then the user adjusts the image or changes the content of the print file through the application program by stopping the current printing sequence.

However, since the above-mentioned print image drawing capability is for displaying the image of a print result, the preview image may differ from the result actually outputted from the printer. To be more specific, the widths of fonts and characters provided by application programs and operating systems may differ from the widths of fonts and characters printed on printers. In addition, color matching may not be achieved between an image displayed on the display device and its counterpart printed on the printer. Color matching herein denotes that there is complete matching in color as viewed from users between the displayed image and the printed image.

Consequently, if the user determines good an image to be printed by checking it through the preview window but the printed image is turned out not what the user desired, the user must readjust at much expense in time and effort the contents of the image file until the desired printed image is obtained.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a print output control apparatus, a print output control method, and a computer-readable recording medium recording a program having a print output control capability that enhance user interface by displaying a preview of a print image by use of its print data.

In carrying out the invention and according to one aspect thereof, there is provided a print output control apparatus for outputting content of a file created by an application program to a printer coupled to a computer, comprising: a printer driver for converting data in the file into print data recognizable by the printer; a print data storage means for storing the print data supplied from the printer driver; a window display means, executed by the printer driver, for acquiring the print data from the print data storage means and displaying, onto a

display device coupled to the computer, a preview window having a preview box for displaying the print data and a print data processing box operable by a user for changing the print data; and a print data processing means, executed by the window display means, for changing the print data when the user operates the print data processing box.

In carrying out the invention and according to another aspect thereof, there is provided a print output control method for outputting content of a file created by an application program to a printer coupled to a computer, comprising the steps of: converting data in the file into print data recognizable by the printer; storing the print data; displaying, onto a display device coupled to the computer, a preview window having a preview box for displaying the print data and a print data processing box operable by a user for changing the print data; changing the print data when the user operates the print data processing box, storing the changed print data, and displaying the changed print data into the preview box; and if requested for printing by the user, executing printing on the printer on the basis of the stored print data.

In carrying out the invention according to still

another object thereof, there is provided a computer-readable recording medium storing a computer program having a print output control capability for outputting content of a file created by an application program onto a printer coupled to a computer, the computer program having capabilities of: converting data in the file into print data recognizable by the printer; storing the print data; displaying, onto a display device coupled to the computer, a preview window having a preview box for displaying the print data and a print data processing box operable by a user for changing the print data; changing the print data when the user operates the print data processing box, storing the changed print data, and displaying the changed print data into the preview box; and if requested for printing by user, executing printing on the printer on the basis of the stored print data.

According to the above-mentioned constitution, print data obtained by converting the data of the file are displayed in the preview box. On the basis of the print data displayed in the preview box, the user can adjust the print data through the print data processing box. Displaying and adjustment of the print data make substantially the same the print result displayed on the screen and the print result actually obtained on the

printer.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects of the invention will be seen by reference to the description, taken in connection with the accompanying drawing, in which:

FIG. 1 is a block diagram illustrating a computer system applicable to a print output control apparatus according to invention;

FIG. 2 is a diagram illustrating a software configuration indicative of a preferred embodiment of the print output control apparatus according to the invention;

FIG. 3 is a diagram illustrating one example of a preview window to be displayed by window display means onto a display device in the print output control apparatus according to the invention;

FIG. 4 is a flowchart indicative of one example of an operation to be performed by user in printing;

FIG. 5 is a flowchart indicative of a preferred embodiment of a print output control method according to the invention;

FIG. 6 is a flowchart continued from FIG. 5; and

FIG. 7 is a diagram illustrating an example of

another preview window to be displayed by the window display means onto the display device in the print output control apparatus.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

This invention will be described in further detail by way of an example with reference to the accompanying drawings.

It should be understood that the following embodiments are preferred by this invention and therefore limited in technology in various preferable manners. However, the scope of this invention is not limited to these embodiments unless otherwise specifically noted as such in the following description.

Now, referring to FIG. 1, there is shown a preferred hardware configuration of a computer system applicable to a print output control apparatus practiced as a first embodiment of the invention. The following describes this computer system denoted by reference numeral 10.

The computer system 10 comprises a CPU (Central Processing Unit) 1, a RAM (Random Access Memory) 2, which is an internal storage device, an HDD (Hard Disc Drive) 3, which is an external storage device, a display device 4,

an input device 5, a printer 6, and a peripheral device 7. The CPU 1 has a capability of executing instructions that constitute a program. The RAM 2 temporarily stores the program being executed by the CPU 1 and the data for use in the execution. The HDD 3 has a capability of storing the operating system (OS) of the computer system, application programs, and drivers.

The display device 4 comprises a CRT (Cathode Ray Tube) or an LCD (Liquid Crystal Display) for example. The input device 5 comprises a keyboard and a pointing device such as a mouse for example. The display device 4 and the input device 5 transfer data between the computer system 10 and the user. The printer 6 has a capability of printing a file created by an application program for example. The peripheral device 7 comprises an auxiliary storage device such as a floppy disc drive, an optical disc drive, or a hard disc drive, or a communication device for example. These hardware devices making up the computer system 10 are interconnected through a bus 8 for data transfer.

FIG. 2 illustrates a software configuration for realizing a print output control apparatus according to the invention denoted by reference numeral 10.

The print output control apparatus 10 comprises a

printer driver 21, a window display means 22, a print data storage means 23, and a print data processing means 24. These components are all stored on the HDD 3 shown in FIG. 1. The printer driver 21 controls the operation of the printer 6 and converts file data created by an application program into print data PD. The printer driver 21 sends the prepared print data PD to the print data storage means 23.

The window display means 22 is a part (for example, a DLL (Dynamic Link Library)) of an application program or the operating system of this computer system that displays a preview window 30 as shown in FIG. 3. The window display means 22 is executed upon request from the printer driver 21. The window display means 22 also has a capability of acquiring the format and name of a file, to be printed, stored in the RAM 2, and print data PD from the print data storage means 23.

The print data processing means 24 is a part (for example, a DLL) of an application program for processing the print data in a predetermined manner or of the operating system. The print data processing means 24 provides capabilities of executing zoom-in/zoom-out, edge enhancement, and color adjustment of image data to be printed, and setting of the font and size of text data to

be printed. It should be noted that the printer driver 21, the window display means 22, and the print data processing means 24 are executed by the CPU 1 shown in FIG. 1. In addition, these components can be incorporated in the computer system 10 as the programs stored on a recording medium.

FIG. 3 illustrates the preview window displayed by the window display means 22. In the figure, the preview window 30 is composed of a title bar 31, menu bar 32, a preview box 33, a print data processing box 34, and a command box 35. The title bar 31 displays the name of the printer 6 on which the printing is to be performed and the name of the file to be printed for example. The menu bar 32 displays processing commands that the user can choose in the preview window 30.

The preview box 33 displays the image of a print result to be outputted from the printer 6. In this box, print data PD are drawn on a paper preview 33a of a predetermined size. The print data processing box 34 changes the setting of the print data PD displayed in the preview box 33 according to a command issued by the user by operating the mouse for example. FIG. 3 illustrates an example in which the print data processing box 34 is composed of a color adjustment box 34a in which a tone

curve graph is shown and a zoom-in/out box 34b for changing the size of the print data PD.

The command box 35 is composed of "OK" command button and "STOP" command button. When the user selects "OK" command after operating the print data processing box 34, the printer 6 starts printing. On the other hand, when the user selects "STOP" command, the preview window 30 closes to display the window of the application program for example.

FIG. 4 shows an exemplary operation to be performed by the user when printing. The following describes one example of printing method with reference to FIGS. 1 through 4. First, the user commands from the application program that a predetermined file be printed (ST1). Then, the preview window 30 as shown in FIG. 3 appears on the display device 4 (ST2). Checking the display of the preview box 33, the user determines whether a desired layout can be obtained or not (ST3). If the user wants to modify the layout, the user does so by use of the zoom-in/out box 34b (ST4).

On the other hand, if the user is satisfied with the layout, then the user determines whether the color of the print data PD drawn in the preview box 33 is as desired or not (ST5). If the user wants to change the

color, the user does so by operating the color adjustment box 34a (ST6). When the desired color is displayed in the preview box 33, the user determines whether to print as shown in the preview box (ST7). To print as shown, the user selects the "OK" command, upon which a print result is outputted from the printer 6 (ST8). If the user selects "STOP" command button, the print processing is halted (ST9).

With reference to FIG. 4, an example of the operation up to the printing by the user of a predetermined file was described. The following describes one example of a print output control method to be used when the user performs a print operation. FIGS. 5 and 6 are flowcharts indicative of the operation of a print output control method practiced as one preferred embodiment of the invention. The following description is made with reference to FIGS. 1 through 6. Now, referring to FIG. 5, when a print command is issued from the application program (ST10), a print request signal is transferred from the CPU 1 shown in FIG. 1 to the printer driver 21 shown in FIG. 2.

The printer driver 21 analyzes the print request signal (ST11) and recognizes the file name, format, and data of the file to be printed. Then, the printer driver

21 transfers the file name and the file format to the RAM 2. At the same time, the printer driver 21 converts the file data to be printed into the print data PD printable by the printer 6 (ST12) and stores the print data PD into the print data storage means 23 (ST13). The printer driver 21 repeats these operations until the print data PD equivalent to one page of the file to be printed are stored in the print data storage means 23 (ST14). Then, when one page of the PD data has been stored in the print data storage means 23, the printer driver 21 activates the window display means 22 to start a preview screen (ST15).

Next, referring to FIG. 6, the window display means 22 shown in FIG. 2 reads the file format and the file name from the RAM 2 (ST16). Further, the window display means 22 reads the print data PD from the print data storage means 23 (ST17). Then, on the basis of the print data PD and the file format, the window display means 22 draws the print data PD in the preview box 33 shown in FIG. 3 and draws the file name on the title bar 31 for example. In addition, the window display means 22 draws the print data processing box 34 that corresponds to capabilities of processing the setting of the print data PD and the setting of the file format prepared in the

print data processing means 24. Then, the preview window 30 as shown in FIG. 3 appears on the display device 4 (ST18).

When the user has changed the print data PD by operating the print data processing box 34 shown in FIG. 3 (ST19), the print data processing means 24 shown in FIG. 2 is executed and the print data PD are changed (ST20). Then, the window display means 22 stores the changed print data PD into the print data storage means 23 (ST21) and displays the changed print data PD onto the preview box 33 shown in FIG. 3 (ST18). The window display means 22 repeats these operations until the user obtained the desired print data PD.

Then, if the user selects "OK" command shown in the command box 35 (ST22), the window display means 22 shown in FIG. 2 comes to an end, upon which the printer driver 21 recognizes through a synchronous object the processing end of the window display means 22. The printer driver 21 then reads the print data PD from the print data storage means 23 and outputs the print data PD to the printer 6 after processing the print data PD if necessary (ST23).

According to the above-mentioned embodiment, when the user requests, from the application program, for printing, the preview window 30 appears. Through the

preview window 30, the user can adjust the print result as desired. Furthermore, the adjustment of the print result is not for displaying or changing the file created by the application program; it is for displaying or changing the print data PD created by the printer driver 21. As such, the user can view through the display device 4 the print content which is generally the same as the print result on the printer. If the user adjusts and changes the displayed preview, the changes made are correctly reflected on the print result. Namely, the user can achieve color matching and font matching between displayed image and print image to realize so-called WYSIWYG (What You See Is What You Get), thereby enhancing user interface.

FIG. 7 shows another embodiment of the preview window. The following describes only the differences from the above-mentioned first embodiment with the description of the common portions skipped. A preview window 130 shown in FIG. 7 has two preview boxes 133a and 133b for example. The first preview window 133a displays print data PD in pre-change state for example. The second preview window 133b displays print data PD in post-change state.

At this moment, the print data storage means 23

shown in FIG. 2 stores two pieces of print data PD before and after change. The window display means 22 can get these two pieces of print data PD. Thus, unlike the first embodiment, the second embodiment allows the user to perform color adjustment for example while checking the print data PD in the states before and after change, thereby enhancing the efficiency of print adjustment.

It should be understood that the present invention is not limited to the above-mentioned embodiments. For example, if there are two or more pages to be printed, provision of a check box "Same Setting Apply to Following" in the preview window 30 shown in FIG. 3 allows the user to specify only a particular page, the following pages being adjusted in the same manner. If a check box "No Preview" is provided for example, the user can set so that no preview feature is displayed.

In the print data processing box 34 of the preview window 30 shown in FIG. 3, the user performs color adjustment by operating the tone curve. It will be apparent that a slide bar for example may be operated for color adjustment. As shown in FIG. 7, the preview window 130 has two preview boxes 133a and 133b. It will be apparent that more than two preview boxes may be arranged.

As described and according to the invention, print

preview is displayed by use of print data, thereby enhancing user interface.

While the preferred embodiments of the present invention have been described using specific terms, such description is for illustrative purposes only, and it is to be understood that changes and variations may be made without departing from the spirit or scope of the appended claims.

WHAT IS CLAIMED IS:

1. A print output control apparatus for outputting content of a file created by an application program to a printer coupled to a computer, comprising:

a printer driver for converting data in said file into print data recognizable by said printer;

a print data storage means for storing said print data supplied from said printer driver;

a window display means, executed by said printer driver, for acquiring said print data from said print data storage means and displaying, onto a display device coupled to said computer, a preview window having a preview box for displaying said print data and a print data processing box operable by a user for changing said print data; and

a print data processing means, executed by said window display means, for changing said print data when the user operates said print data processing box.

2. The print output control apparatus according to claim 1, wherein said print data processing means includes a capability of adjusting color of said print data.

3. The print output control apparatus according to

claim 1, wherein said print data processing means includes a capability of adjusting print size of said print data.

4. The print output control apparatus according to claim 1, wherein said window display means having a capability of displaying said print data before being changed through said print data processing box and said print data after being changed through said print data processing box.

5. A print output control method for outputting content of a file created by an application program to a printer coupled to a computer, comprising the steps of:

converting data in said file into print data recognizable by said printer;

storing said print data;

displaying, onto a display device coupled to said computer, a preview window having a preview box for displaying said print data and a print data processing box operable by a user for changing said print data;

changing said print data when the user operates said print data processing box, storing the changed print data, and displaying said changed print data into said preview box; and

if requested for printing by the user, executing

printing on said printer on the basis of the stored print data.

6. The print output control method according to claim 5, wherein, when said print data is processed in a predetermined manner for change, the print data before change and the print data after change are stored and these pieces of print data are displayed in said preview box.

7. A computer-readable recording medium storing a computer program having a print output control capability for outputting content of a file created by an application program onto a printer coupled to a computer, said computer program having capabilities of:

converting data in said file into print data recognizable by said printer;

storing said print data;

displaying, onto a display device coupled to said computer, a preview window having a preview box for displaying said print data and a print data processing box operable by a user for changing said print data;

changing said print data when the user operates said print data processing box, storing the changed print data, and displaying said changed print data into said preview box; and

if requested for printing by user, executing printing on said printer on the basis of the stored print data.

8. The computer-readable recording medium according to claim 7, wherein said computer program further having capabilities of, when said print data is processed in a predetermined manner for change, storing the print data before change and the print data after change and displaying these pieces of print data into said preview box.

ABSTRACT OF THE DISCLOSURE

A print output control apparatus, a print output control method, and a computer-readable recording medium storing a computer program having print output control capabilities. Print preview is displayed by use of print data to enhance user interface. A print output control apparatus comprises: a printer driver for converting data in the file into print data recognizable by the printer; a print data storage means for storing the print data supplied from the printer driver; a window display means, executed by the printer driver, for acquiring the print data from the print data storage means and displaying, onto a display device coupled to the computer, a preview window having a preview box for displaying the print data and a print data processing box operable by a user for changing the print data; and a print data processing means, executed by the window display means, for changing the print data when the user operates the print data processing box.

SOFTO SSIGICD

FIG. 1

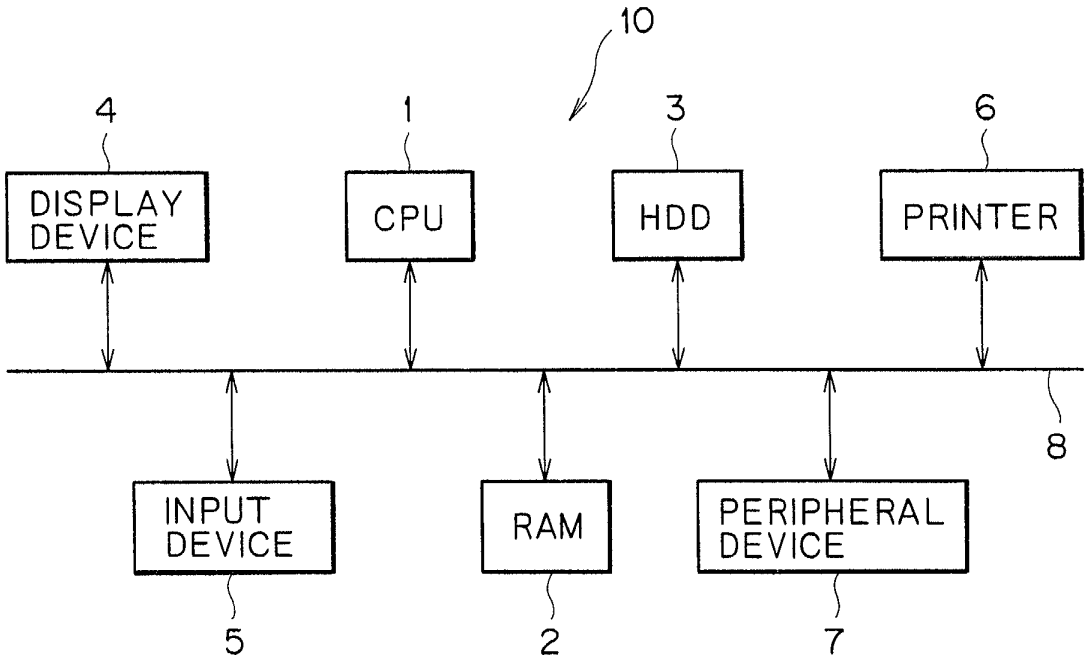


FIG. 2

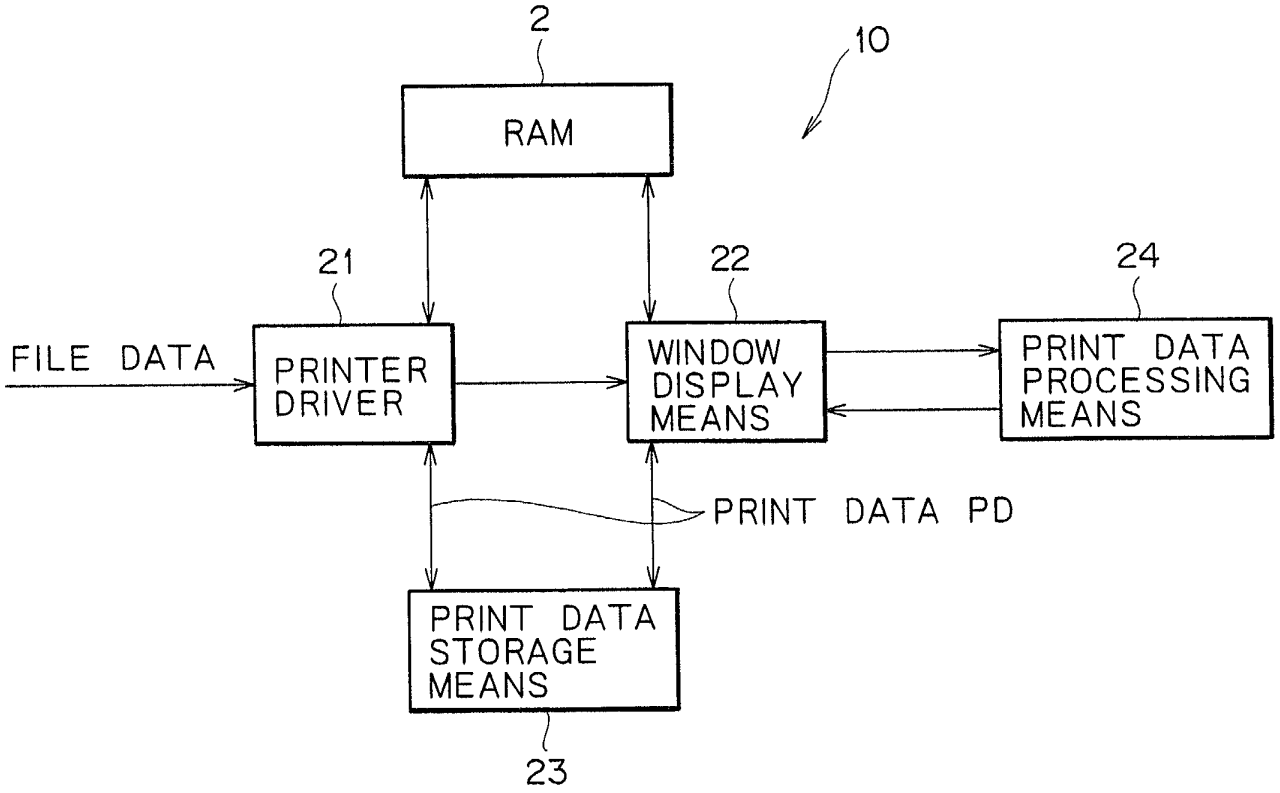

2
10
RAM
21
22
24
FILE DATA
PRINTER DRIVER
WINDOW DISPLAY MEANS
PRINT DATA PROCESSING MEANS
PRINT DATA PD
PRINT DATA STORAGE MEANS
23

FIG. 3

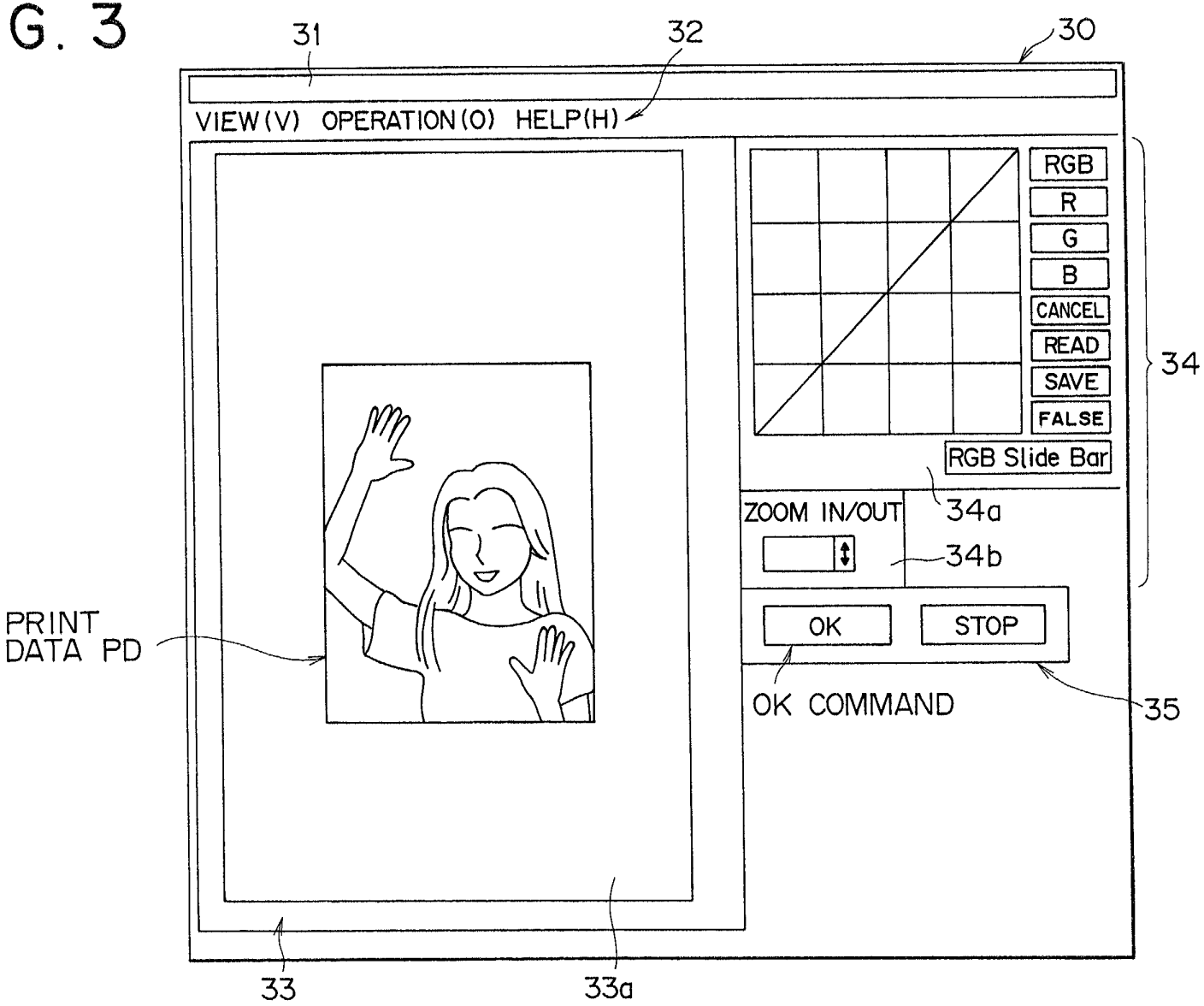

31
32
30
VIEW(V) OPERATION(O) HELP(H)
RGB
R
G
B
CANCEL
READ
SAVE
FALSE
34
RGB Slide Bar
34a
ZOOM IN/OUT
34b
OK
STOP
PRINT DATA PD
OK COMMAND
35
33
33a

FIG. 4

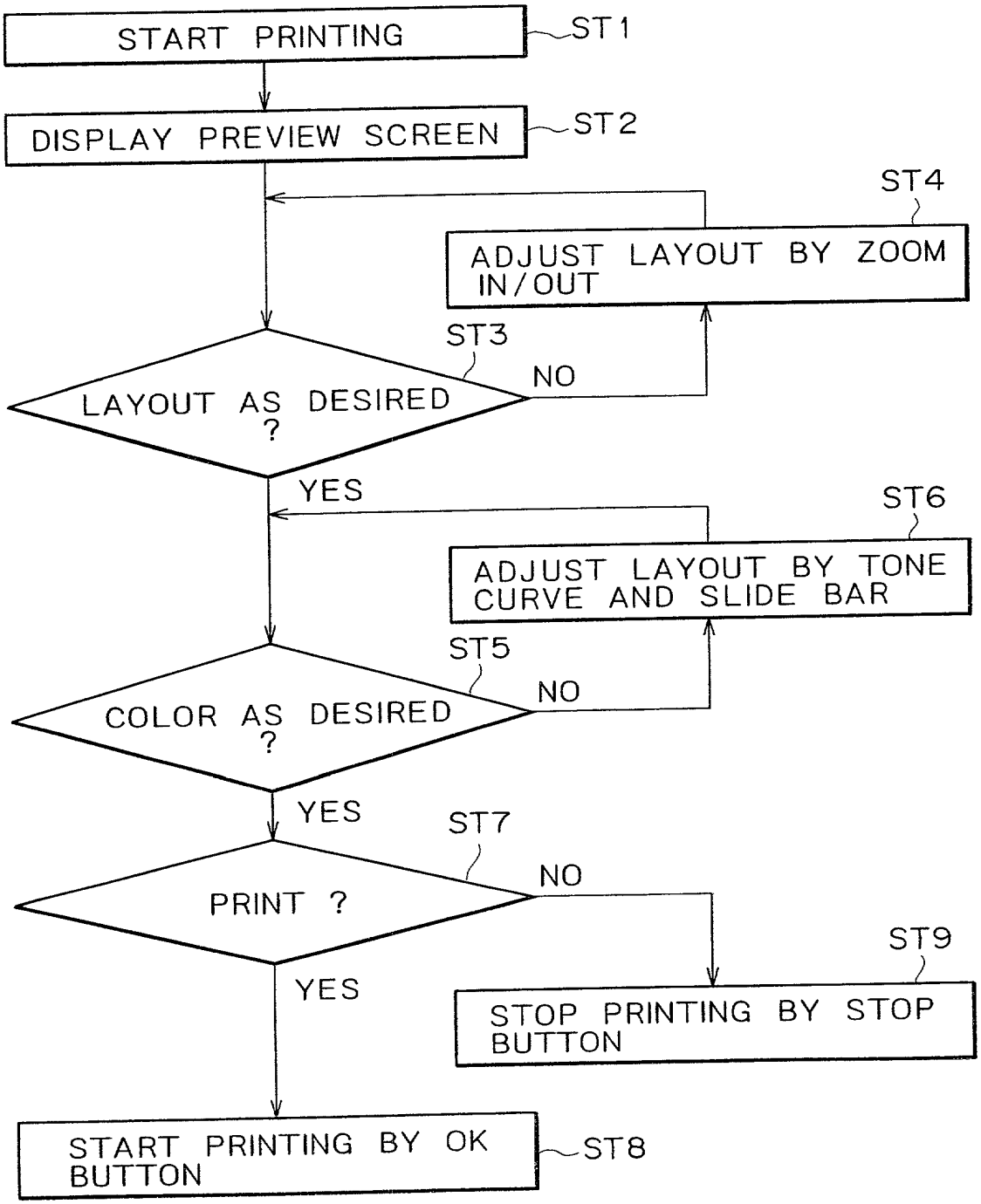

START PRINTING
ST1
DISPLAY PREVIEW SCREEN
ST2
ST4
ADJUST LAYOUT BY ZOOM IN/OUT
ST3
LAYOUT AS DESIRED ?
NO
YES
ST6
ADJUST LAYOUT BY TONE CURVE AND SLIDE BAR
ST5
COLOR AS DESIRED ?
NO
YES
ST7
PRINT ?
NO
YES
ST9
STOP PRINTING BY STOP BUTTON
START PRINTING BY OK BUTTON
ST8

FIG. 5

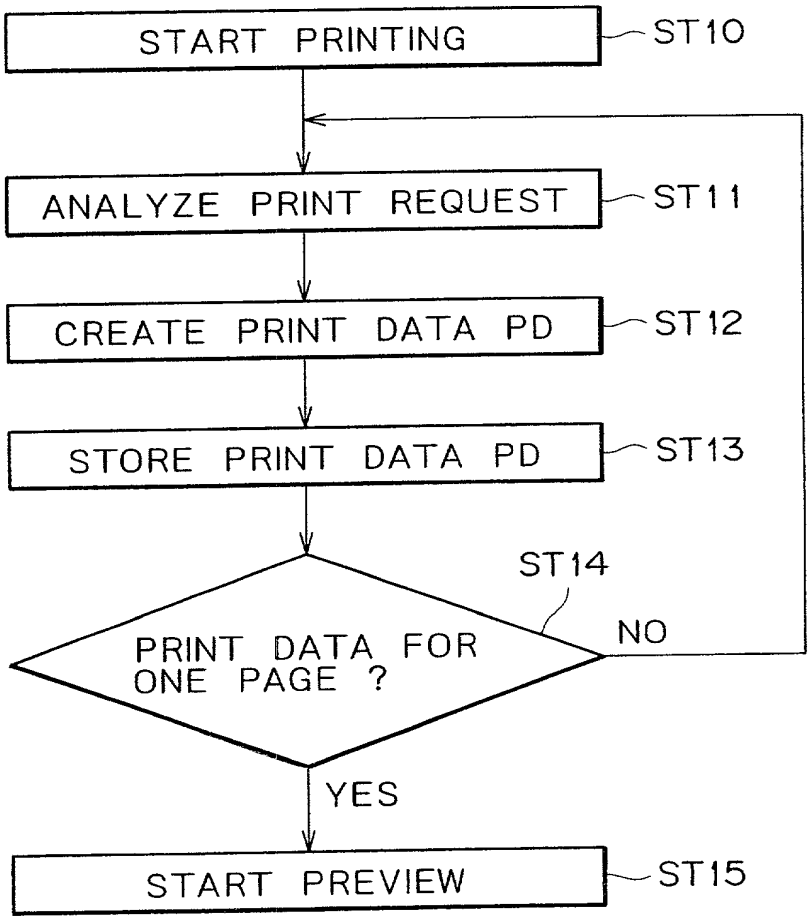

START PRINTING
ST10
ANALYZE PRINT REQUEST
ST11
CREATE PRINT DATA PD
ST12
STORE PRINT DATA PD
ST13
ST14
PRINT DATA FOR ONE PAGE ?
NO
YES
START PREVIEW
ST15

FIG. 6

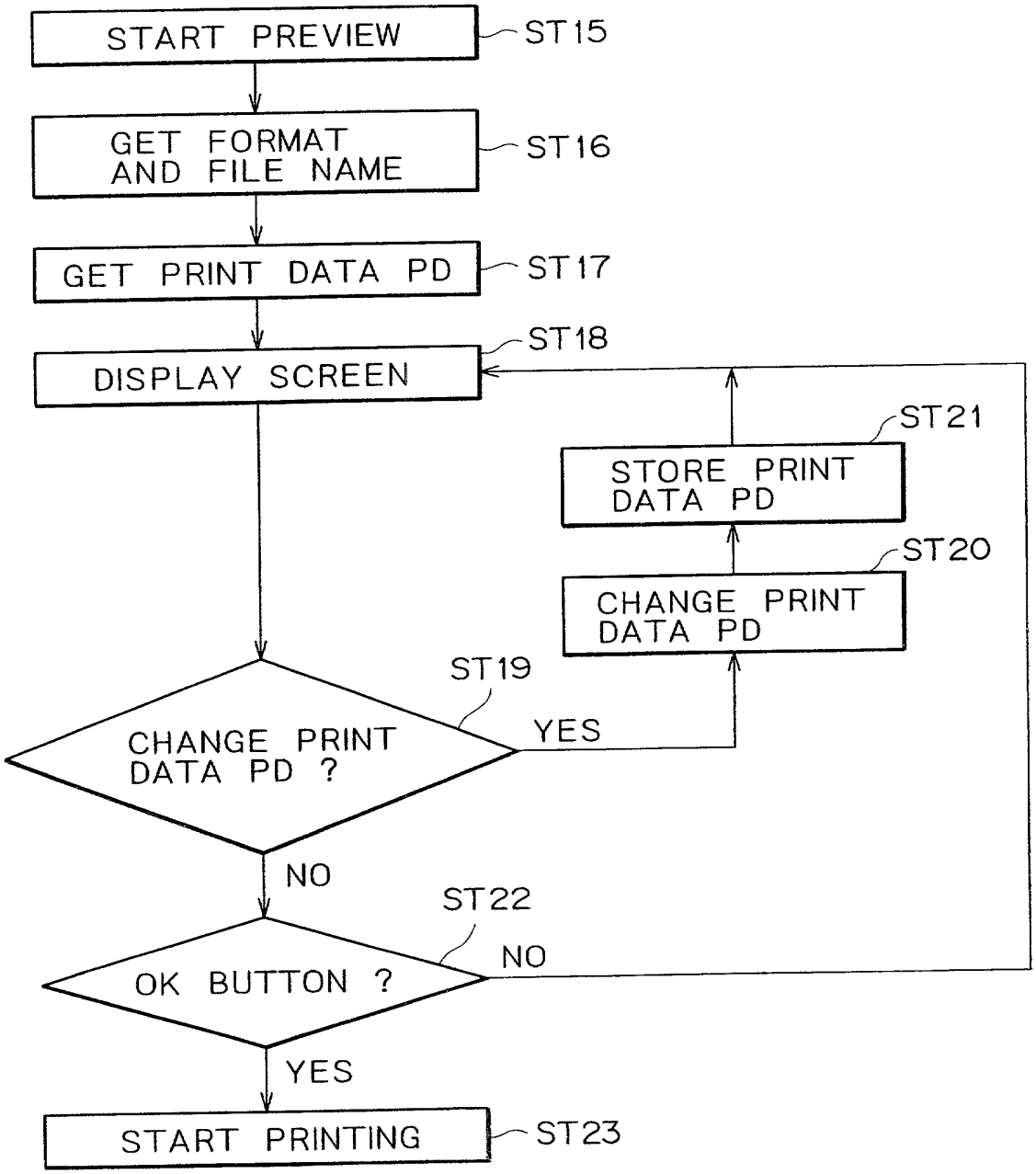
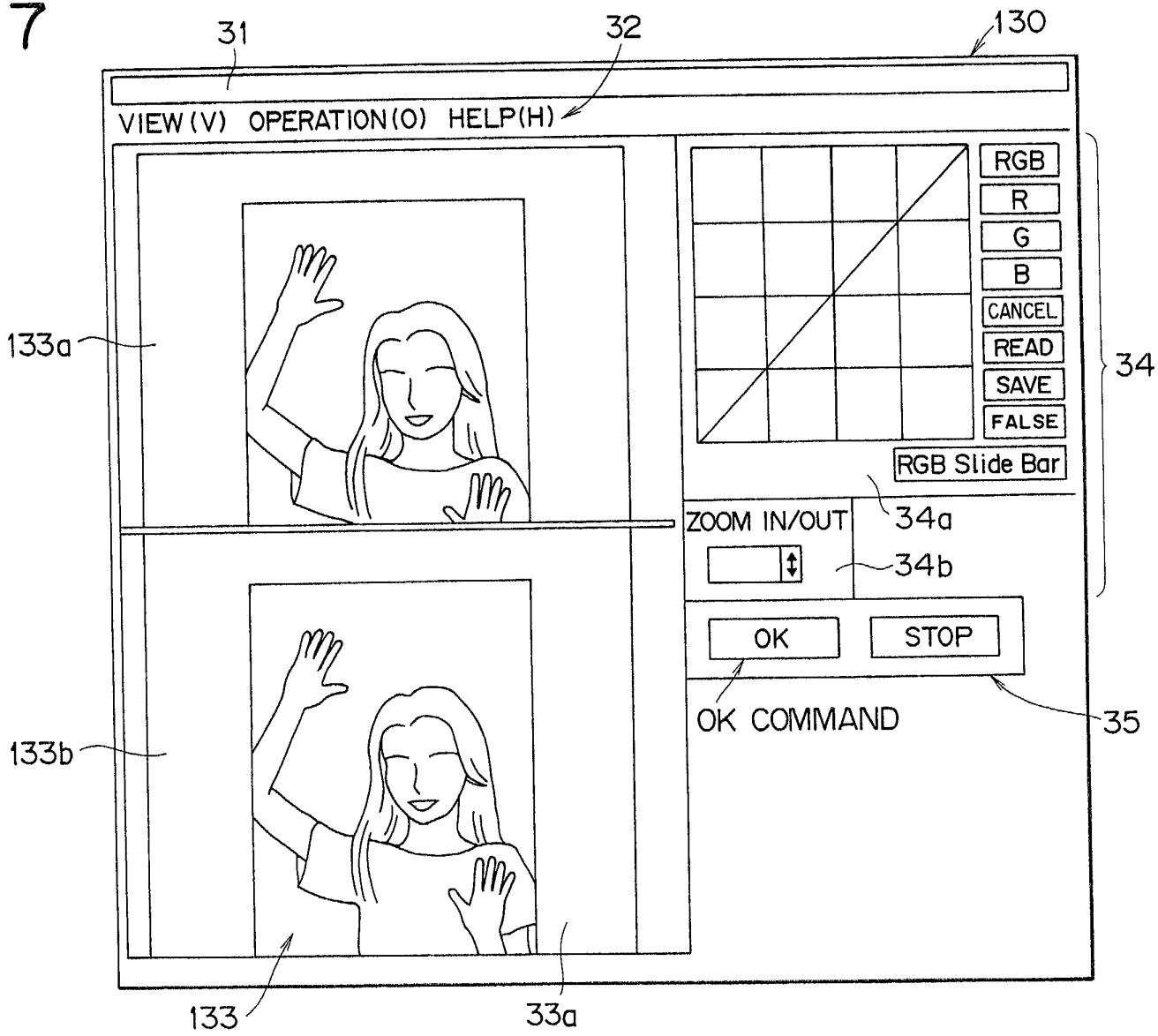

START PREVIEW
ST15
GET FORMAT AND FILE NAME
ST16
GET PRINT DATA PD
ST17
DISPLAY SCREEN
ST18
ST21
STORE PRINT DATA PD
ST20
CHANGE PRINT DATA PD
ST19
CHANGE PRINT DATA PD ?
YES
NO
ST22
OK BUTTON ?
NO
YES
START PRINTING
ST23

FIG. 7


31
32
130
VIEW(V) OPERATION(O) HELP(H)
RGB
R
G
B
CANCEL
READ
SAVE
FALSE
RGB Slide Bar
34
34a
ZOOM IN/OUT
34b
OK
STOP
OK COMMAND
35
133a
133b
133
33a

SONY-T0084 BY EXPRESS MAIL NO. EL254109620US

Declaration and Power of Attorney For Patent Application
特許出願宣言書及び委任状

Japanese Language Declaration
日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。	As a below named inventor, I hereby declare that:
私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。	My residence, post office address and citizenship are as stated next to my name.
下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。 _____ _____	I believe I am the original, first and sole inventor (if only one named is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled. PRINT OUTPUT CONTROL APPARATUS, PRINT OUTPUT CONTROL METHOD, AND COMPUTER-READABLE RECORDING MEDIUM RECORDING PROGRAM HAVING PRINT OUTPUT CONTROL CAPABILITY
上記発明の明細書（下記の欄でx印がついていない場合は、本書に添付）は、 ☐ _月_日に提出され、米国出願番号または特許協定条約国際出願番号を_____とし、 （該当する場合）_____ に訂正されました。	the specification of which is attached hereto unless the following box is checked: ☐ was filed on ____ as United States Application Number or PCT International Application Number ____ and was amended on _____ (if applicable).
私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
私は、連邦規則法典第３７編第１条５６項に定義されるとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.
私は、米国法典第３５編１１９条(a)-(d)項又は３６５条(b)項に基き下記の、米国以外の国の少なくとも一ヵ国を指定している特許協力条約３６５(a)項に基ずく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。	I hereby claim foreign priority under Title 35, United States Code, Section 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.
Prior Foreign Application(s) 外国での先行出願 P11-020333 (Number) (番号)　Japan (Country) (国名)	Priority Not Claimed 優先権主張なし 28 January 1999 (Day/Month/Year Filed) (出願年月日)　____

Japanese Language Declaration
日本語宣言書

(Number) (番号)	(Country) (国名)	(Day/Month/Year Filed) (出願年月日)

私は、第３５編米国法典１１９条(e)項に基いて下記の米国特許出願規定に記載された権利をここに主張いたします。	I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.
(Application No.) (出願番号) / (Filing Date) (出願日)	(Application No.) (出願番号) / (Filing Date) (出願日)
私は、下記の米国法典第３５編１２０条に基いて下記の米国特許出願に記載された権利、又は米国を指定している特許協力条約３６５条(c)に基ずく権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第３５編１１２条第１項又は特許協力条約で規定された方法で先行する米国特許出願に開示されていない限り、その先行米国出願書提出日以降で本出願書の日本国内または特許協力条約国際提出日までの期間中に入手された、連邦規則法典第３７編１条５６項で定義された特許資格の有無に関する重要な情報について開示義務があることを認識しています。	I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.
(Application No.) (出願番号) / (Filing Date) (出願日)	(Status: Patented, Pending, Abandoned) (現況：特許許可済、係属中、放棄済)
(Application No.) (出願番号) / (Filing Date) (出願日)	(Status: Patented, Pending, Abandoned) (現況：特許許可済、係属中、放棄済)
私は、私自身の知識に基ずいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じるところに基ずく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第１８編第１００１条に基ずき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。	I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may be jeopardize the validity of the application or any patent issued thereon.

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委任状： 私は下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。（弁護士、または代理人の氏名及び登録番号を明記のこと）	POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark office connected therewith (*list name and registration number*)

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